

Ministry of Government and Consumer Services
Government Service Integration Cluster

after-Discovery Digital First Assessment

Conversational Interactive Voice Response (CIVR) for
ServiceOntario Driver and Vehicle Licensing (D&V)

DA-690
November 30, 2021

Agenda

- CIVR Overview and Demo (15 minutes)
- Alignment with Digital Service Standards (30 minutes)
- Questions and Discussion (30 minutes)

CIVR Overview

Background

- To support MTO's Digital Transformation Strategy, as well as the Contact Centre Modernization Initiative (CCMI).
- Replace the current touch-tone D&V Interactive Voice Response (IVR) application with a Conversational IVR application making it easier for customers to reach an agent, increase self-service and reduce the number of calls.
- **Over 1.7M calls are received by the D&V IVR application annually;** 15% receive busy signals; only 12% can be self-served

Objective(s)

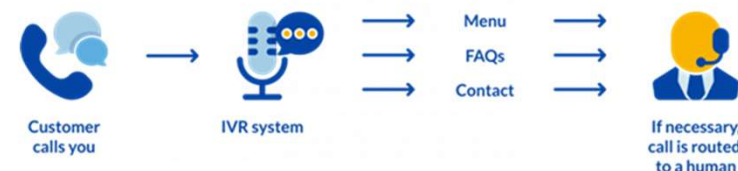
- Expand self-serve capabilities enabling a more efficient delivery of information to callers, and improved experience
- Simpler routing of calls to agents, when this is the best option (e.g., complex enquiries, enquiries requiring access to case/client info)
- Create the foundation for future transition to Conversational IVR applications broadly in the OPS

Approach

- Research and analysis, to influence design (data, user research, journey mapping and current usage – types of calls, trends, human behaviour)
- Leverage experience from the contact centre, learnings from D&V Chatbot, Lean Assessment, etc.
- Leveraging new technology, and technology partners (e.g., Cloud/Amazon Connects)

Problem Statements

How a call moves through the IVR system

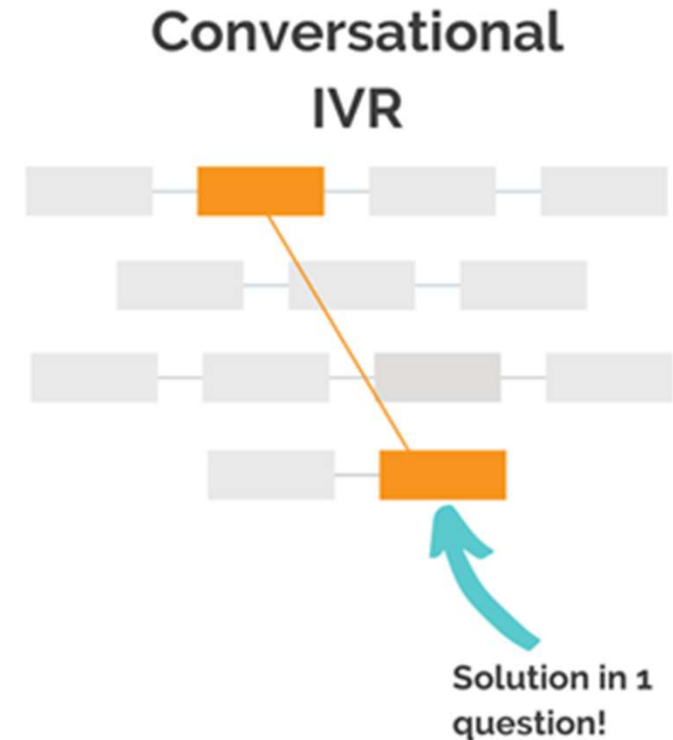
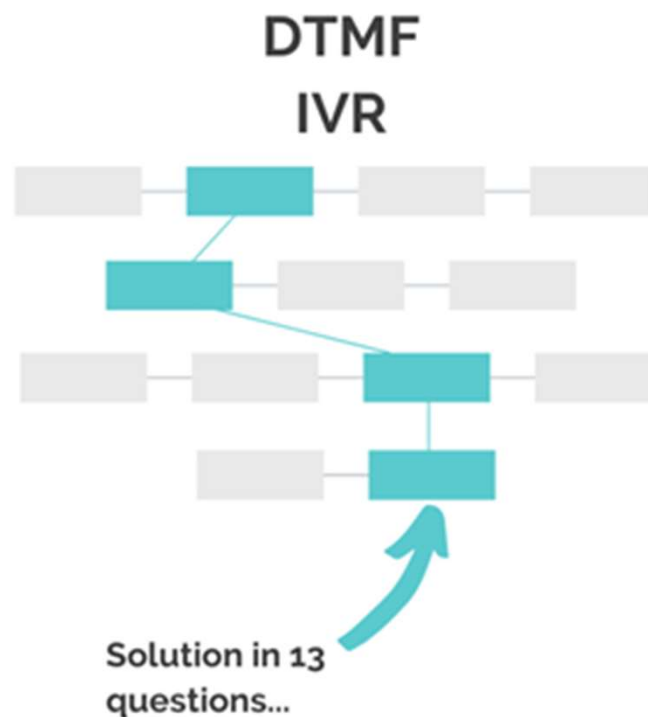


- 1) Difficult to navigate the current system and self-serve
 - Individuals or businesses calling the ServiceOntario Interactive Voice Response (IVR) for the purposes of getting information regarding Driver & Vehicle (D&V) services are **not able to effectively self-serve**.
 - Users **must navigate multiple layers** of the ServiceOntario IVR and the specific D&V branch of the IVR to receive a response to their enquiry, which **may cause frustration with the length of time** spent in the IVR or reaching the MMR (multi-media routing) to speak to an agent.
 - Data shows that callers listen to most of the message for a topic they have selected in the IVR before they press the option to zero out (most of message = 75% of message). **With CIVR, users will only hear messages that are pertinent** to the specific question they ask.
- 2) Out of space for new programs
 - ServiceOntario's ability to effectively support any additional MTO D&V programs (including Covid-related programs) is limited due to the **IVR reaching capacity** and complexity in its current state (5X5 menu structure). MTO introduces new D&V initiatives on a regular basis, making it challenging to **add these new programs** in the IVR as others would need to be removed. With the CIVR, programs/new information can be added more efficiently, **allowing the channel to be more agile**.

Caller Experience Transformation with CIVR

Replace the current touch-tone D&V IVR, with a conversational IVR, so that callers:

- will not need to **navigate multiple layers** of menu options to speak to an agent
- will have more opportunities to **self-service, increasing customer satisfaction** and reducing the number of calls that go to an agent.
- **access to more information** as CIVR is not limited to the amount of information like today's IVR



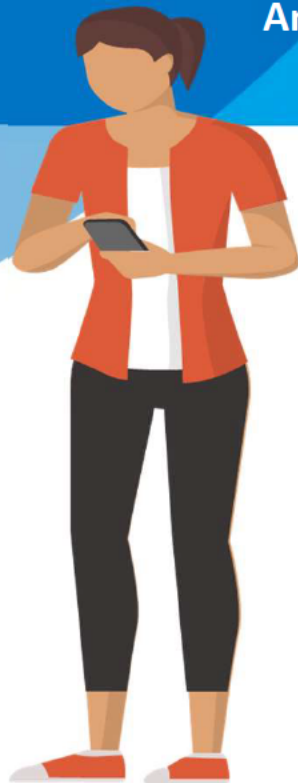
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Meet Emma.

Emma is a busy, mother of three, living in Sudbury.

Among her many tasks today, Emma needs to get an Ontario Photo Card

Emma starts with a call to ServiceOntario...



Emma goes about her day, with all the info she needed. Another satisfied Ontarian!

Alignment with Digital Service Standards

The next slides provide a summary note for each of the DSS principles.

- 1) Understand users and their needs
- 2) Establish the right team
- 3) Be consistent
- 4) Design the service from start to finish
- 5) Make it accessible and inclusive
- 6) Be agile and user-centred
- 7) Use open standards and common platforms
- 8) Embed privacy and security by design
- 9) Support those who need it
- 10) Measure performance
- 11) Be a good data steward

Note: for further reference see the after-Discovery document and survey presentation.

1. Understand users and their needs

Understanding the needs of people who use the service is critical to building something that works for them.

Moving to a Conversational IVR system, from an Interactive Voice Response system, is an opportunity consider humanizing the call experience. Doing so would enable a less robotic feeling, for callers, and continuing to provide high value informative responses.

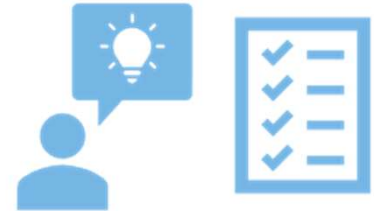
Because there are very few leading examples of successful CIVR systems, our opportunity has been to learn from our users some core considerations as we work through the discovery phase of the project.

User research included a **survey** and listening to call **recordings**.



1. Understand users and their needs (continued)

Survey Executive Summary



Online Survey Goals:

- Discover the expected '*tone of voice*' of a Voice entity in an CIVR system
- Confirm the content design, length and messaging of the existing IVR responses is still appropriate
- Confirm how callers expect a Voice Entity to respond to their phone enquiry

The following high level, persona and/or experiential insights have been identified:

1. Information provided (via phone agent) should be delivered in a friendly tone, with the opportunity to follow-up with additional questions
2. A single response using existing the (existing) IVR/Web content was preferred over creating a new multi-prompt responses
3. There was no clear preference in the personality of a phone support voice entity; the least preferred option was one that sounded direct and formal
4. Multiple write-in responses contrasted that call messages were generally too long, but could be considered a reference to the IVR experience in total.

1. Understand users and their needs (continued)

Call Recordings Executive Summary

User research included analyzed to >800 call recordings. Call recordings indicated:

1. 28% of calls required look-ups by agents and cannot be self-served.
2. Top questions (for zero out calls)
 - Delivery issues
 - Online transactions (e.g., payment issues, errors, didn't receive confirmation)
 - Driver and License history/abstract
 - Appointment booking



1. Understand users and their needs (continued)

Call Recordings: examples of callers and questions

People with disabilities

- How do I get an accessible parking permit (APP)?
- My APP expired but I did not get a renewal
- How do I get a photo card?
- How do I renew my photo card?

Licensed drivers

- I want to renew my driver's licence
- I want pay fines
- I lost my licence
- I received a renewal notice. What do I do?
- How do I get my suspended licence re-instated?

Vehicle owners

- I lost my licence plate and need to replace
- I need to replace my ownership
- I need to replace my permit
- I need to replace my sticker
- I want to transfer my car to a family member

New drivers, >80 years old

- I want to apply for a driver's licence
- Where do I go to get a driver's licence?
- I'm over 80 now so what is the procedure

People in D&V process waiting for fulfillment

- When will I receive my vehicle sticker?
- My licence has not arrived in the mail, when will it come?
- There is a problem with my payment I need to fix

New to Ontario/ change of information/ travelling

- How do I change my name or address for my licence/vehicle/ photo card?
- I'm visiting Ontario: can I drive here?

2. Establish the right team

CIVR Team (core)



Project Leadership

Maintains overall accountability for project outcomes and governance, manages executive client relationships and helps triage escalated risk items

Executive Sponsor:

Olga Bakonyi, Head, Contact Centre Modernization Branch

Project Core Team

Responsible for day-to-day planning and execution of the project, collaborating with stakeholders and escalating risks/barriers

Product Owner:

Scott Gow, Senior Manager, Business Solutions, CCMB

Product Manager:

Tim Trudeau, Senior I&IT Project Manager, CCMB

Subject Matter Specialist

Responsible for providing specialty knowledge of CCMB business and technology transformation

Vergel Evans - User Experience (UX) Designer from MTO Digital Garage

Kyle Kwan – Content Writer, User Researcher (Business Liaison)

Lyn Lim – Content Writer, User Researcher (Business Liaison)

Matthew Hayvren – QA Specialist

Annie Perez – Technical Lead

Carolyn Luney - Service Designer

Charith Senaratne - I&IT Lead Technology Specialist

2. Establish the right team (continued)

Extended team of subject matter experts & stakeholders

MTO SMEs

Keith Madill – Sr. Policy Advisor, Driver Program Development

Arthur Legardo – Sr. Policy Advisor, Driver Program Development

Bob Rajhans – Policy Team Lead, Vehicle Program Development

Melody McClelland - Manager, Program Standards, Licensing, Permits and Support Office

Jennifer Elliott - Manager, Licensing, Permits and Support Office

Julia Scordia - Team Leader, Contract & Oversight Management Office

Maryanne Cirillo - Business Advisor, Contract & Oversight Management Office

Allison Partington, SME Digital Service Playbook from MTO Digital Garage

MGCS

Privacy and Records Management

Cyber Security

Enterprise Architecture

MGCS, ServiceOntario SMEs

Rover Okumura, Operations Manager, Customer Care

Praveen Senthinathan, Ashleigh Cocuzzi and Derek Kinley – MGCS Communications

Alessia Vaughan and Chuck Jane – Contact Centre Services

Sarah Loveridge and Trish Lewis – Change Management Implementation

Carine Chartier – Reporting & Information Management

Stephanie Guillen – Business Training Unit



3. Be consistent

When the public interacts with the Ontario government, their experience should feel cohesive, positive and consistent.

- Driver and vehicle is an eco-system. Different services are interdependent, for example from user research: Because the DriveTest Contact Centre line is busy, drivers are calling ServiceOntario. Problems from one area are transported to another area with people looking for help.
- We are working with Ontario.ca and the chatbot (web channel) for increased consistency and support for customers.
- CIVR will direct callers to the Ontario.ca website, although we do not anticipate a traffic surge to Ontario.ca. This is not changing from the current state.
- The Contact Us information on the Ontario.ca webpages will not change.

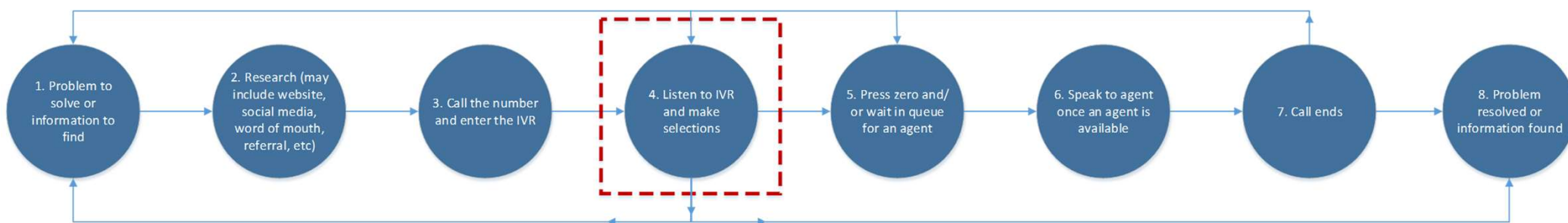


4. Design the service from start to finish

Understand what users are trying to do and how it fits with the broader context of their life. The user journey in the contact centre process would benefit from the centre of the journey noted below as this is where gaining access to the answer(s) to their question(s) may be resolved.



Conversational IVR
Project Scope



5. Make it accessible and inclusive

Make sure the service or product is accessible to all users regardless of their abilities, device, environment or quality of access.

The team has consulted with the Ontario Accessibility Centre of Excellence for guidance regarding accessible practices for conversational IVR. The Web Content Accessibility Guidelines (WCAG) do not specifically relate to CIVR. The consultation provided some recommendations associated to the on the overarching principles:

- Perceivable: information must be presented to a user in ways they can perceive
- Operable: users must be able to use the interface and it can't require an interaction that the user can't perform
- Understandable: users must be able to understand the information provided and how to use the interface

We will work with the content owner on the wording used and ensure it is in both official languages. User testing will provide additional insights into accessibility and usability before launch.

Some user groups will benefit from the conversational IVR technology such as:

- people with visual impairment who don't use or rely on visual or text-based information
- people with mobility or dexterity impairments who find buttons difficult to press

Note: the capability of a caller to **connect to an agent** or **use TTY** will continue to be available options



6. Be agile and user-centred

Build and test one feature of the service or product at a time and work towards continuous improvement.

- Smaller packages of work will be identified to demonstrate the functionality through prototyping
- Collaboration will continue using the tools identified e.g. Miro, MS Teams, SharePoint. Regular touchpoints include 2-3 stand-ups per week
- Workshops for content design include SME's from with Policy, Communications, Technology, User Experience, Quality Assurance and Business/Program
- A core discovery from the online survey has been the importance of keeping messages as close to existing content as possible. From the comments in the survey, respondents are looking for concise information and do not want additional steps, or segments in the audio before receiving all the required information to feel their information request has been answered
- Listened to >800 calls into ServiceOntario indicated that agents asked what type of licence a caller wanted to know about
- Team will be able to adjust to needed improvements

7. Use open standards and common platforms

Use open standards, open-source software and common government platforms where available.

- Voice-activated IVR applications are being hosted on ECCS today (e.g. 511, MOF), and this is the next-generation technology
- This MVP will be the first of its kind in the Ontario government and will provide learnings that can be leveraged for future CIVR implementations within the OPS
- Research has included jurisdictional scans to gain a better understanding of how to solve problems identified
- The CIVR administration interface will leverage Single Sign-On (SSO) for the administrative users
- The CIVR solution (used by the public or public facing) will integrate with the existing on-prem ECCS contact centre
- A variety types phones will be used to call into the CIVR

Note: the general public will only be able to interact with this service by placing calls

8. Embed privacy and security by design

Put appropriate legal, privacy and security measures in place so that users feel confident that their personal information will be kept secure, and their privacy will be respected.

- CIVR will collect caller's utterances (what they are speaking to the CIVR. For example "How do I renew my driver's licence", "Yes, that's what I want". Additionally, standard call metrics will be collected such as caller's phone number, phone number that the caller dialed to reach the CIVR (this may be a conversion phone number associated with a toll free number) and call time duration.
 - Call recordings and transcripts are stored in S3 buckets (repository) - these buckets will be managed by administrators
 - We are engaged with the MGCS Privacy Office to determine if an assessment and or any changes are recommended.
- A TRA is scheduled for January 2022

9. Support those who need it



Put tools in place across all channels to support people who cannot use digital services or products on their own.

Based on research, examples of groups who may experience accessibility barriers include:

- Individuals with hearing impairment
- Individuals with cognitive disabilities
- Individuals with speech and language impairments

These groups will be considered during the design of the solution, and accessibility accommodation will be incorporated in the call flow design.

Mitigation strategies may include:

TTY (Teletype): callers who have their own TTY device can call into ECCS, when the IVR receives TTY calls, they are transferred to another phone number and managed by the OPS Enterprise TTY service **where an agent can communicate with the caller** through text using the OPS TTY software installed on their desktop.

Our ECCS standards is to always provide an out for the callers, therefore saying “Agent” or pressing 0 will be made available in the Conversational IVR design. “Timeouts” can also be used to route callers that don’t say or enter anything. The CCMB standard is never to “trap” the caller in the IVR whether it is a touch-tone, speech or conversational IVR, there is always an exit to the contact centre whether purposefully selected (via saying Agent or pressing 0) or unintentionally selected (by timing out in a menu, repeating the menu content multiple times, or erroring out by saying/pressing something that was not expected).

The appropriate updates to support models, knowledge records and administrative resource training is incorporated into the project deliverables to ensure a smooth transition to operational support and therefore maintain a high level of service for callers.

10. Measure performance

#	Metric	Measure	Notes/Assumptions
1	Customer Satisfaction	Client satisfaction with answer	There is no target change because we don't have this measurement today. This would be measured by looking at callers who answered yes when asked within the conversation if their question was answered.
		Client satisfaction overall	Before we can set "target change" I think we would need a baseline? We can set a baseline by deploying a survey pre-cutover. Then running the same survey post cutover. For text based chats we said that the target for overall customer satisfaction (for both the bot portion of the chat and the agent portion of the chat) should be 80%.
2	Speed to Need	Time to first topic	The baseline is the time it take the caller to get to the "topic" in today's IVR. In CIVR this would be measured by looking at time it takes caller to get to first topic. We can compare against baseline to measure improvement.
		Time to MMR	The baseline is the time it take the caller to get to MMR from today's IVR. In CIVR this would be measured by looking at time it takes caller to get to MMR. We can compare against baseline to measure improvement.
3	% Self Serve	% hangups	The baseline can be measured in today's IVR (i.e. number of callers that hanging /total callers). We know that most callers listen to most of the message before hanging up. In CIVR we'll want to measure the same thing (number of callers that hang up after listening to most of message) and ensure that it is not decreasing. Inspirationally it would increase, but success is maintaining. Note: Do we need to look at this after hours vs during business hours.
4	Early Agent Assistance	% zero out from top menu	The baseline can be measured in today's IVR (i.e. number of callers that press 0 from top menu/total calls). In CIVR we'll want to measure the same thing (number of callers that ask to speak to an agent/press 0 from "top menu"). Note: If we are able to measure at other menus in CIVR we'll do that as well but will depend on design which won't be finalized until alpha.

11. Be a good data steward

Follow the [rules and best practices](#) when you organize and manage data, including making data open by default.

- ServiceOntario wait times and call volumes (contact centres) are published to the Ontario data catalogue: [ServiceOntario wait times and call volumes \(contact centres\) - Datasets - Ontario Data Catalogue](#). This includes Driver and Vehicle Licensing (D&V) data.

QUESTIONS



What is a Conversational IVR?

TODAY (Traditional IVR)

Callers listen to scripts and use touch-tone to select, navigate options

Callers navigate through many menus to find the information they are looking for, or they zero out to speak to an agent

IVR scripts and menu options are updated when new programs are added or changed

TOMORROW (Conversational IVR)

Callers will speak naturally to the IVR to say what they are calling about

Callers will get the answer to their question more quickly, either through self-serve in the IVR, or through connecting to an agent when needed

When a new program is added, new questions from the public will be anticipated. An “Intent” in the Conversational IVR can be updated or added to cover the new topic

I use natural language processing, artificial intelligence (AI), and machine learning to understand callers and provide them with the information they need.



4th Point from Survey – Callers expect a level of frustration with IVR

Open Question

**Is there anything...
relevant to your
experience calling into a
government contact
centre?**

“I like when the information I’m looking for is in one call and I don’t have to pick 10 other options to gather the information I’m looking for.”

“Usually when I listen to these messages I will write down the information.”

“I often re-play audio prompts multiple times when I call Service Ontario. This is either because they're too long and I end up forgetting bits of information or because I want to be certain that I'm understanding the message correctly. I generally don't see this as a pain point (to replay messages multiple times). However, it does become a pain when the audio messages are too long - I end up feeling like I'm wasting too much time. .”

“Not clear how to navigate calling options to get to the service I am looking for. Agents are rushed to answer and the focus is on how fast they can serve you verses providing accurate information. Agents are equipped for basic questions, and questions that are more complicated are generally brushed off as the agents are stuck from trickling up and having a follow-up response system in place. I've been hung up on while in a call and cannot reach the same agent. Disappointed that once you open a call/case, you cannot continue to deal with the same person until the case is resolved - causes confusion. Provided with information that does not align with program area in person service.”

“As much as possible, limit the number of times the user has to choose an option to continue. ”

“Tell me where to find VIN Registration / Permit / Ownership / green paper / certificate are what people call this document and will be less likely to understand the word permit. When people think of being pull over by law enforcement they - licence and registration please. .”

MVP Evaluation

Outcomes	Evidence	How
Address/Ensure Program Integrity	Successful ability to add additional D&V programs/services to the Conversational IVR solution	1. Provide up-to-date, accessible information about MTO D&V programs and services, available to customers 24/7 2. Instill customer confidence in MTO D&V programs and services 3. No further requirement to repurpose / combine MTO D&V programs/services
Improve Customer Experience/Introduce Efficiencies	To improve customer experience and introduce efficiencies by allowing callers to get to the information more quickly (via IVR or agent)	1. Provide up-to-date, accessible information about MTO D&V programs and services, available to customers 24/7 2. Enable customers to obtain required information by self-serving within the Conversational IVR 3. Enable customers to reach agents in more efficient manner
Address MYP Initiative	MTO has introduced a Digital Transformation Strategy which includes the redesign and rebuild of the D&V portion of the ServiceOntario IVR	1. Digital Transformation Strategy will enable MTO, in collaboration with MGCS, to deliver programs, services and products to Ontarians while following provincial guidelines for physical distancing and protecting vulnerable populations due to the current pandemic. 2. To go beyond the current standard 5x5 touch-tone IVR design and to support more contact types